

REMARKS

Claims 1-66 are pending in the present application, of which claims 2, 31-37, 40, 45, 50, 63 and 66 are restricted from consideration pursuant to an election. Therefore, claims 1, 3-30, 38, 39, 41-44, 46-49, 51-62, 64, and 65 are at issue. This amendment is timely filed as it is accompanied by a petition for a two month extension of time and the fee therefor extending the response date to April 23, 2002. Each of the claims at issue is rejected under 35 U.S.C. § 102(a) as allegedly anticipated by Reikimoto et al. (hereinafter "Reikimoto"). The applicants traverse such rejections and respectfully request reconsideration.

Claims 1 and its dependent claims are allowable over the cited art

Claim 1 recites a wearable computer for use in a process environment, where the wearable computer includes a processing unit, a computer readable memory, a heads up display, an input device that provides an input signal to the processing unit and a software routine. The software routine recited in claim 1 provides process information pertaining to various process control devices within the process control system, such as pressures, temperatures, etc., to a user via the heads up display. This feature enables a wearer to view information about the process control devices that is collected by other physical devices such as a process control system controller.

Reikimoto does not disclose or suggest a software routine that provides process information such as pressures, temperatures, etc., about a process control system. While Reikimoto discloses a wearable computer system that allows a user to view information about an environment that is "virtually" attached to various objects in the environment, the wearable computer system of Reikimoto does not allow a user to view actual process information, e.g., physical information inherent to these objects, via the heads up display. Instead, Reikimoto system is limited to allowing a user to view "virtual" information created by and attached to the object by another person. Thus, while the system recited by claim 1 provides a user with the capability to view inherent physical information about various process control devices, without relying on other users to attach such information to these devices, the Reikimoto system only allows a user to view information about an object that is virtually attached to the object by other users. As a result, a user of the system

recited in claim 1 has access to contemporaneous process information about various process control devices, such as current temperatures, current pressures, etc., while a user of the Reikimoto system has no access to any such contemporaneous information about objects. Therefore, claim 1 is not anticipated by Reikimoto.

Moreover, Reikimoto does not provide any indication that the system it describes can be or should be modified to make it capable of providing physical information such as temperatures, pressures, etc., inherent to various devices in a process control system, to a user via a heads up display. In fact, because the system described in Reikimoto does not disclose or suggest using any input device to capture physical information about objects such as restaurants, meeting rooms, etc., Reikimoto does not suggest the advantage of providing a user with the capability to view information inherent to such objects. Similarly, because the Reikimoto system can only provide information about various objects that is virtually attached to such objects by other people, it does not recognize the advantages of a system where a user can access information about various devices without having to rely on someone else to attach this information to the device.

It is clear that the prior art must teach or suggest each of the claim elements and must additionally provide a suggestion of, or an incentive for, the claimed combination of elements to establish a *prima facie* case of obviousness. *See In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985); *In re Royka*, 490 F.2d 981 (CCPA 1974) and M.P.E.P. § 2143. Because Reikimoto does not disclose or suggest providing any process control information pertaining to a process control system, it follows that Reikimoto cannot render pending claim 1 obvious.

Claims 13, 24 and 60 and their dependent claims are allowable over the cited art

Claims 13, 24 and 60 recite one of a wearable computer, a device identification unit for use on a wearable computer and a data storage/retrieval unit for use on a wearable computer, where such systems include either an image processor or a software routine to identify a device based on a device feature. The systems recited by these claims process an input signal, such as an image of a device, to identify a device based on an inherent device feature, such as a shape of a device, a device tag, etc. This feature allows a wearer of such a system to walk to various parts of a process control system and identify a process control

device even if no identification information such as an infra-red beacon is attached to such a device.

Reikimoto does not disclose or suggest a system that processes an input signal to identify a device based on a device feature. While Reikimoto discloses a wearable computer system that recognizes objects using structure attached to these objects specifically for the purpose of enabling these devices to be identified by the wearable computer, such as infra-red tags, or printed 2D matrix codes, Reikimoto does not and cannot identify physical objects in the environment based on features inherent to such objects, such as a shape of a restaurant, a logo on a video machine, etc. Therefore, claims 13, 24 and 60 are not anticipated by Reikimoto.

Moreover, Reikimoto does not provide any indication that the system it describes can be modified to make it capable of identifying objects in an environment based on features that are inherent to such objects. Instead, Reikimoto assumes that the only way to identify the devices is to attach structure to the devices, such as bar codes, infra-red beacon generators, etc., for the specific purpose of allowing a wearable computer to identify these devices, and does not suggest identifying devices within a process control system based on inherent or already-present device features. However, identifying devices in a process control system based on a device feature is advantageous because it can be prohibitively expensive and cumbersome to attach identification codes to each and every device in, for example, a process control system having thousands of different devices. Similarly, Reikimoto does not indicate that it is possible or desirable to change its image processing system to identify objects based on their shapes, tags, etc.

It is clear that the prior art must teach or suggest each of the claim elements and must additionally provide a suggestion of, or an incentive for, the claimed combination of elements to establish a *prima facie* case of obviousness. See *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985); *In re Royka*, 490 F.2d 981 (CCPA 1974) and M.P.E.P. § 2143. Because Reikimoto does not disclose or suggest using a software routine on a wearable computer for identifying devices based on device features, it follows that Reikimoto cannot render any of pending claims 13, 24 and 60 obvious.

Claims 38 and 46 and their dependent claims are allowable over the cited art

Claims 38 and 46 recite either a wearable computer system or a process control testing unit for use in a process control system that communicates with a wearable computer system, where the wearable computer system includes a processing unit, a computer readable memory, an input device adapted to produce an input signal, a remote communication device to communicate with the process control system and a software routine run on the processing unit. The software routine recited by these claims processes an input signal, such as a voice signal, a keyboard signal, etc., to develop a change signal indicating a change to be made in the process, change such as a temperature, a pressure, etc., and communicates the change signal to the process control system to thereby cause the change to be made to the process signal.

Reikimoto does not disclose or suggest a software routine that processes an input signal to develop a change signal indicating a change to be made in a process and that than communicates the change signal to a process control system to thereby cause a change to be made to the process. While Reikimoto discloses a wearable computer system that allows a user to view information about an environment and to "virtually" attach notes to various objects in the environment, the wearable computer system of Reikimoto does not process an input signal to develop a further signal which, in any manner, effects or causes a physical change to be made in the environment. Thus, while Reikimoto discloses a wearable computer that communicates information associated with objects in a physical environment, such as a restaurant, a video, a VCR, etc., to a network of computers, the Reikimoto system does not and cannot communicate any change signal to the network to cause a physical change to be affected within this environment. Therefore, claims 38 and 46 are not anticipated by Reikimoto.

Moreover, Reikimoto does not provide any indication that the system it describes can be or should be modified to make it capable of generating a change signal to cause a physical change to objects in an environment. In fact, Reikimoto does not indicate that it is possible or desirable to modify its system to make it capable of making changes to physical characteristics of objects. In fact, applicants do not see how objects such as restaurants, meeting rooms, etc., could be changed by such a system.

It is clear that the prior art must teach or suggest each of the claim elements and must additionally provide a suggestion of, or an incentive for, the claimed combination of

elements to establish a *prima facie* case of obviousness. See *In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985); *In re Royka*, 490 F.2d 981 (CCPA 1974) and M.P.E.P. § 2143. Because Reikimoto does not disclose or suggest using a software routine on a wearable computer for processing an input signal to develop a change signal indicating a change to be made in a process signal within a process control system or for communicating the change signal to the process control system to thereby cause a change to be made to the process control system, it follows that Reikimoto cannot render either of pending claims 38 and 46 obvious.

Claims 55 and its dependent claims are allowable over the cited art

Claim 55 recites an image viewing unit for use in a process control system including a first software routine capable of receiving an image, such as an image captured by a video camera, enabling an operator to make changes to the image, such as to highlight or mark an area of the image, and sending the image with the changes to a wearable computer. The image viewing unit recited in claim 55 also includes a second software routine capable of sending an image to an operator workstation, receiving another image from the operator workstation, and displaying the image received from the operator workstation on the image viewing unit. Together, these software routines allow a user of this system to communicate back-and-forth with an operator of a process control system using images of various devices within the process control system. This feature makes it easier for the user to work interactively with the operator.

Reikimoto does not disclose or suggest a software routine capable of sending an image to an operator workstation, allowing an operator to make changes to the image, receiving the changed image from the operator workstation, and displaying the received image on a wearable computer. While Reikimoto discloses a software routine that is capable of processing images such as bar codes, etc., it does not allow such images to be changed by a user. Similarly, the Reikimoto system has no facility for two people to interactively exchange information about various objects using images of such objects. Therefore, claims 55 is not anticipated by Reikimoto.

Moreover, Reikimoto does not provide any indication that the system it describes can be or should be modified to make it capable of changing images captured by its camera,

such as images of bar codes, etc. In fact, it would be of no use to allow a user to change the bar code image of the Reikimoto system.

It is clear that the prior art must teach or suggest each of the claim elements and must additionally provide a suggestion of, or an incentive for, the claimed combination of elements to establish a *prima facie* case of obviousness. *See In re Oetiker*, 24 U.S.P.Q.2d 1443, 1446 (Fed. Cir. 1992); *Ex parte Clapp*, 227 U.S.P.Q. 972, 973 (Bd. Pat. App. 1985); *In re Royka*, 490 F.2d 981 (CCPA 1974) and M.P.E.P. § 2143. Because Reikimoto does not disclose or suggest using a software routine for making changes to an image by an operator and for receiving a changed image from an operator workstation to be displayed by a wearable computer, it follows that Reikimoto cannot render pending claim 55 obvious.

Conclusion

In view of the foregoing, it is respectfully submitted that the above application is in condition for allowance. If there is any matter that the examiner would like to discuss, he is invited to contact the undersigned representative at the telephone number set forth below.

Respectfully submitted,

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Appendix - Version of Claims with Markings Illustrating Changes Made

60. (Amended) A data storage/retrieval unit adapted for use in a wearable computer having a processor, a microphone that produces a voice signal, an input device that produces an input signal, a speaker and a heads up display, the data storage/retrieval unit comprising:

a computer readable memory;

a first software routine stored on the computer readable memory and adapted to be executed on the processor of the wearable computer that identifies a process control device based on a device feature captured by the input signal;

a second software routine stored on the computer readable memory and adapted to be executed on the processor of the wearable computer that receives the voice signal from the microphone and stores the received voice signal as being linked to the identified process control device in a further memory associated with the wearable computer in response to a first user input to store the received voice signal; and

a third software routine stored on the computer readable memory and adapted to be executed on the processor of the wearable computer that provides an indication via the heads up display that a previously stored voice signal is available for the identified process control device when the previously stored voice signal exists for the identified process control device in the further memory and that plays the previously stored voice signal for the identified process control device on the speaker in response to a second user input selecting the previously stored voice signal for the identified process control device for retrieval.